again I find a few little grains of pyroxene which seem to be of a rhombic kind.

Thank you for your invitation. I should much like to have a talk with you & to see your apparatus; but I cannot just at present foresee how my engagements will fall out. I will write you again, & I suppose we shall meet in London on April 3rd. I missed the last Geol. Soc. meeting, being called away by family affairs to Yorkshire.

I am yours truly,

Alfred Harker

DSI

GEOLOGICAL SURVEY OF SCOTLAND

March 24th. 1901

St John's Coll. Camb.

Dear Sollas,

Thanks for the tabular statement of the composition of gabbro no. 8194. There seems to be an arithmetical mistake; the magnetite being calculated at only one-tenth of its real amount; but, as my revised result is practically identical with yours, it is perhaps only an error in copying (unless indeed I have myself blundered). I am afraid I must confess that the rock is not a very suitable one for mechanical analysis. If

course it was selected only because I had Pollard's full analysis of it.

There is no analysis of 8706. It was sent in order to be dealt with by the new process when that should have triumphantly superseded the more laborious methods of the chemist. I should be pleased to have the percentage mineral-composition & the sp. gr. of each mineral; but do not wish you to spend your time unprofitably to yourself (since the result cannot be put to any accurate test). The rock is a troctolite of sp. gr. 3.07, composed of abundant olivine (a little serpentinised only) & anorthite, with a little diallage & magnetite.

Two other rocks I sent as suited to your method, but I have no chemical analyses of them. One is a norite (8705; marked E in my consignment): sp. gr. 3.23: consists essentially of enstatite and a basic felspar, with subordinate olivine & a little magnetite & picotite: a clean fresh rock.

The other is a peridotite (marked A), and on looking at a slice of it there seems to be little separation possible: it is practically an aggregate of fresh olivine, with a little anorthite & some little octahedra of magnetite or chromite. So do not trouble about this.

Your finding hypersthene in No. 8194 is interesting. I had failed to detect it in the slice; but looking

87/878

Jan 2 10th 1901

St John's Coll. Camb.

Dear Sollas,

I am sending you today two gabbros, already analysed by Pollard, for you to try your mechanical analysis upon: viz:—

[8043] Sp. gr. 2.85 chosen.
[8194] — 2.90

Also three other rocks, not analysed, in case you desire such. They are marked as follows —

Also two felspars:—
B from a gabbro,
& D from a troctolite.

I chose gabbros for the two analysed rocks because they are pretty coarse-grained. If you like I can send a couple of finer-grained dolerites, also analysed by Pollard.

Yours truly,
Alfred Harker.

DSI

E	Sp. gr.	3.23
[8706]	—	3.07
A	—	?

& are respectively a norite (dominant Enstatite with felspar, olivine, & augite); a troctolite (olivine & felspar, with little augite); & a peridotite (mainly olivine, probably with some augite, felspar, & picotite or magnetite).

I hope your method will prove all that you expect. If so, the percentage mineral compositions of the rocks will be welcome here when you have done with them. Incidentally you will perhaps be able to give me the Sp. grs. of some of the minerals more closely than I can determine them.

I put into the small parcel sundry other things which you may perhaps find time to look at when you have your heavy solution working, but do not let them bother you. They are

C , another tachylytic rock (? Sp. gr. of the glassy part if it can be separated easily).

X , nicbeckite-granophyre, which ought to yield plenty of nicbeckite, partly in decent crystals without inclusions: there may be a little augite with it.

HARKER (**Alfred,** F.R.S., *petrologist*, 1859-1939) A.L.S. (ALFRED HARKER), St. John's Coll. Camb., March 4th, 1901, to Prof. W. J. Sollas, F.R.S., 4 pages 8vo., 15*s*

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HARKER, Alfred

A. L. S. to Prof. Sollas
dated Jan. 10, 1901
on mineral analysis

5702 **GOSSE** (Philip Henry, F.R.S., *naturalist*, 1810-88) A.L.S. (1 p. 11 Gosse), Sandhurst, Ph
13 April, 1860, to Sir Richard Owen, F.R.S., 4 pages 8vo., £1, 1*s*

A very apologetic letter, on the question of the Sea Serpent, the existence of which Owen denied, but of whi